

In the claims: Please change the claims as indicated (so that only the dependency of claim 12 is changed).

1. (Previously presented) A method of encoding a sequence of bits for transmission via a transmission channel as symbols consisting of a plurality of bits, some of the bit positions of the symbols having a higher bit error rate than other bit positions, the method comprising:

a) a step of providing a plurality of sequences of bits using a convolutional encoder, in response to a sequence of input bits, each sequence of bits being defined by a predetermined generator polynomial having a predetermined level of sensitivity to puncturing; and

b) a step of mapping the bits of each sequence of bits to symbol positions based on the level of sensitivity of the generator polynomial defining the sequence of bits.

2. (Previously presented) A method of decoding a sequence of bits encoded for transmission via a transmission channel as symbols consisting of a plurality of bits, some of the bit positions of the symbols having a higher bit error rate than other bit positions, the method comprising:

a) a step, responsive to received symbols, of demapping the symbols back to a plurality of sequences of bits, each sequence of bits being defined by a predetermined generator polynomial having a predetermined level of sensitivity to puncturing, the demapping based on the level of sensitivity of a generator polynomial defining a respective one of the sequences of bits; and

b) a step, responsive to the plurality of sequences of bits, of providing outputs bits using a convolutional decoder.

3. (Previously presented) A method as in claim 1, further comprising a step of interleaving.

4. (Previously presented) A method as in claim 2, further comprising a step of deinterleaving.

5. (Previously presented) A method as in claim 3, wherein the interleaving is bit interleaving, and wherein the step of providing a mapping is performed after the step of bit interleaving.

6. (Previously presented) A method as in claim 4, wherein the deinterleaving is bit deinterleaving, and wherein the step of demapping is performed before the step of bit deinterleaving.

7. (Previously presented) A method as in claim 3, wherein the interleaving is symbol interleaving, and wherein the step of providing a mapping is performed before the step of symbol interleaving.

8. (Previously presented) A method as in claim 4, wherein the deinterleaving is symbol deinterleaving, and wherein the step of demapping is performed after the step of symbol deinterleaving.

9. (Previously presented) A method as in claim 3, wherein, in the step of providing a plurality of sequences of bits using a convolutional encoder, at least one of the sequences of bits are punctured after using the convolutional encoder in order to fit the at least one sequence of bits into a transmission channel.

10. (Previously presented) A method as in claim 9, wherein the amount of puncturing of each sequence depends on the level of sensitivity of the polynomial defining the sequence.

11. (Previously presented) A method as in claim 1, wherein, in the step of providing a plurality of sequences of bits using a convolutional encoder, at least one of the sequences of bits are punctured after using the convolutional encoder in order to fit the at least one sequence of bits into a transmission channel.

12. (Currently amended) A method as in ~~claim 1~~claim 2, wherein, in the step of providing output bits from the plurality of sequences of bits, punctured bits are inserted into at least one of the sequences of bits before using the convolutional decoder.

13. (Previously presented) A method as in claim 11, further comprising a step of interleaving.

14. (Previously presented) A method as in claim 13, wherein the interleaving is bit interleaving, and wherein the step of providing a mapping is performed after the step of bit interleaving.

15. (Previously presented) A method as in claim 13, wherein the interleaving is symbol interleaving, and wherein the step of providing a mapping is performed before the step of symbol interleaving.

16. (Previously presented) A method as in claim 11, wherein the amount of puncturing of each sequence depends on the level of sensitivity of the polynomial defining the sequence.

17. (Previously presented) A transmitting apparatus for encoding a sequence of bits for transmission via a transmission channel as symbols consisting of a plurality of bits, some of the bit positions of the symbols having a higher bit error rate than other bit positions, the apparatus comprising:

a) means for providing a plurality of sequences of bits using a convolutional encoder, in response to a sequence of input bits, each sequence of bits being defined by a predetermined generator polynomial having a predetermined level of sensitivity to puncturing; and

b) means for mapping the bits of each sequence of bits to symbol positions based on the level of sensitivity of the generator polynomial defining the sequence of bits.

18. (Previously presented) A receiving apparatus for decoding a sequence of bits encoded for transmission via a transmission channel as symbols consisting of a plurality of bits, some of the bit positions of the symbols having a higher bit error rate than other bit positions, the apparatus comprising:

a) means, responsive to received symbols, for demapping the symbols back to a plurality of sequences of bits, each sequence of bits being defined by a predetermined generator polynomial having a predetermined level of sensitivity to puncturing, the demapping based on the level of sensitivity of a generator polynomial defining a respective one of the sequences of bits; and

b) means, responsive to the plurality of sequences of bits, for providing outputs bits using a convolutional decoder.

19. (Previously presented) A transmitting apparatus as in claim 17, further comprising means for interleaving.

20. (Previously presented) A receiving apparatus as in claim 18, further comprising means for deinterleaving.

21. (Previously presented) A transmitting apparatus as in claim 19, wherein the means for interleaving performs bit interleaving,

and wherein the means for mapping is operative after the means for interleaving.

22. (Previously presented) A receiving apparatus as in claim 20, wherein the means for deinterleaving is bit deinterleaving, and wherein the means for demapping is performed before the step of bit deinterleaving.

23. (Previously presented) A transmitting apparatus as in claim 19, wherein the means for interleaving performs symbol interleaving, and wherein the means for providing a mapping is operative before the means for interleaving.

24. (Previously presented) A receiving apparatus as in claim 20, wherein the means for deinterleaving performs symbol deinterleaving, and wherein the means for demapping is operative after the means for deinterleaving.

25. (Previously presented) A transmitting apparatus as in claim 19, wherein, the means for providing a plurality of sequences of bits using a convolutional encoder includes, after the convolutional encoder, means for puncturing at least one of the sequences of bits in order to fit the at least one sequence of bits into a transmission channel.

26. (Previously presented) A transmitting apparatus as in claim 25, wherein the means for puncturing provides puncturing of each sequence in an amount that depends on the level of sensitivity of the polynomial defining the sequence.

27. (Previously presented) A transmitting apparatus as in claim 17, wherein, the means for providing a plurality of sequences of bits using a convolutional encoder includes, after the

convolutional encoder, means for puncturing at least one of the sequences of bits in order to fit the at least one sequence of bits into a transmission channel.

28. (Previously presented) A receiving apparatus as in claim 18, wherein, the means for providing output bits using a convolutional decoder includes, before the convolutional decoder, means for inserting bits into at least one of the sequences of bits.

29. (Previously presented) A transmitting apparatus as in claim 27, further comprising means for interleaving.

30. (Previously presented) A transmitting apparatus as in claim 29, wherein the means for interleaving performs bit interleaving, and wherein the means for providing a mapping is operative after the means for interleaving.

31. (Previously presented) A transmitting apparatus as in claim 29, wherein the means for interleaving performs symbol interleaving, and wherein the means for providing a mapping is operative before the means for interleaving.

32. (Previously presented) A transmitting apparatus as in claim 27, wherein the means for puncturing provides puncturing of each sequence in an amount that depends on the level of sensitivity of the polynomial defining the sequence.

33. (Original) A system for wireless communication, comprising a base station and a mobile station, wherein either the base station or the mobile station includes a transmitting apparatus as claimed in claim 17.

34. (Original) A system for wireless communication, comprising a base station and a mobile station, wherein either the base station or the mobile station includes a receiving apparatus as claimed in claim 18.